

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) Method A method for producing an anisotropic magnetic powder, comprising:
 - providing a starting material comprising an SE-TM-B alloy, wherein SE is a rare earth element including yttrium and TM is a transition metal, said starting material comprising a magnetic material with an anisotropic orientation and an average grain size of less than 1 mm, said starting material further comprising a hard magnetic content greater than 90% by volume, or and foreign phases smaller than 0.5 mm in size, or combinations thereof;
 - producing a mixture having comprising a TM_xB phase in said starting material by a hydrogenation/dehydrogenation treatment without homogenization treatment at high temperate comprising:
 - performing a first hydrogenation process on said starting material, said first hydrogenation process comprising heating said starting material comprising said SE-TM-B alloy under a hydrogen pressure sufficient to produce a hydride of the SE-TM-B alloy, and then
 - performing a second hydrogenation process comprising exposing the hydride resulting from said first hydrogenation to at a hydrogen pressure and an elevated temperature that induces sufficient to induce a phase transition to produce said TM_xB phase, and afterward

— performing a dehydrogenation process dehydrogenating and producing a reverse phase transition to produce an anisotropic magnetic powder having a crystallographic orientation that matches a crystallographic orientation of said TM_xB phase and that has a fine and uniformly granular microstructure.

2. (Currently Amended) Method A method for producing an anisotropic magnetic powder from magnetic scrap material to be recycled, comprising:

- providing a starting material comprising an SE-TM-B alloy, wherein SE is a rare earth element including yttrium and TM is a transition metal, said starting material comprising magnetic scrap metal,

- producing a mixture having a TM_xB phase in said starting material by a hydrogenation/dehydrogenation treatment, comprising:

performing a first hydrogenation process on said starting material, said first hydrogenation process comprising heating said starting material under a hydrogenation pressure sufficient to create a hydride of the SE-TM-B alloy, and then

performing a second hydrogenation process at a hydrogenation comprising exposing the product of said first hydrogenation, comprising exposing the product of said first hydrogenating to a hydrogen pressure and at an elevated temperature which induces sufficient to induce a phase transition to produce said TM_xB phase, and afterward

— performing a dehydrogenation process dehydrogenating and producing a reverse phase transition to produce an anisotropic magnetic powder

having a crystallographic orientation that matches a crystallographic orientation of
said TM_xB phase and that has a fine and uniformly granular microstructure.

3. (Currently Amended) ~~Method~~ The method according to ~~Claim~~ claim 1, in which the starting material comprises a permanent magnetic material with having a hard magnetic phase $SE_2TM_{14}B$, wherein SE is a rare earth element including ~~Y~~ and TM is a transition metal.

4. (Currently Amended) ~~Method~~ The method according to ~~Claim~~ claim 1, in which wherein the magnetic material comprises at least one of the elements Fe, Ni or Co is provided as the transition metal TM.

5. (Currently Amended) ~~Method~~ The method according to claim 1, in which wherein the magnetic material further comprises additives including amounts of C, O, N and/or S are present.

6. (Canceled)

7. (Currently Amended) ~~Method~~ The method according to claim 1, in which wherein the starting material comprises a magnetic material with has an average grain size smaller than 0.1 mm.

8. (Currently Amended) ~~Method~~ The method according to claim 1, in which the starting material is ground further comprising grinding, and screened or

~~fractionated screening or fractionating the starting material before the hydrogenation/dehydrogenation treatment.~~

9. (Currently Amended) Method The method according to claim 1, in which wherein the starting material comprises a magnetic powder with having a crystal size amounting to and a particle size such that the crystal size is at most 75% of the particle size.

10. (Currently Amended) Method The method according to claim 1, in which further comprising cleaning the starting material is cleaned, especially removing foreign phase fractions.

11. (Currently Amended) Method The method according to claim 10, in which the starting material is cleaned by wherein said cleaning comprises annealing the starting material in vacuo, in a noble gas or in hydrogen before the hydrogenation/dehydrogenation treatment.

12. (Currently Amended) Method The method according to claim 1, in which a further comprising heat treatment is performed in particular at a temperature up to 600 °C under a noble gas or a vacuum atmosphere treating the magnetic powder after the hydrogenation/dehydrogenation treatment.

13. (Currently Amended) Method The method according to claim 1, in which further comprising homogenizing the magnetic powder that is produced is homogenized by blending.

14. (Currently Amended) Method The method according to claim 1, in which further comprising screening the magnetic powder produced is so that it is freed of a coarse fraction having particles greater than 0.5 mm in size by screening.

15. (Currently Amended) Method The method according to claim 1, in which wherein the magnetic powder is supplied with has a particle fraction of max. 40% particles < 32 μ m in size having a size < 32 μ m that is less than or equal to 10% of the particles.

16. (Currently Amended) Method The method according to claim 1, in which wherein the magnetic powder is coated.

17. (Currently Amended) Method The method according to claim 1, wherein B is partially replaced by C.

18. (Currently Amended) Plastic A plastic or metal bonded magnet manufactured using a magnetic powder produced by a the method according to claim 1.

19. (Original) Magnet The magnet according to claim 18, with having an energy product BHmax greater than 80 kJ/m³.

20. (Currently Amended) Magnet The magnet according to claim 18, with having a degree of orientation equal to or greater than 70%.

21. (Currently Amended) Magnet The method according to claim 18, with having a degree of filling of magnetic fractions of at least 63 vol%.

22. (Currently Amended) Method The method according to Claim claim 1, in which wherein TM_xB is Fe₂B.

23. (Currently Amended) Method The method according to Claim claim 2, in which wherein TM_xB is Fe₂B.

24. (New) The method according to claim 1, wherein SE comprises yttrium.

25. (New) The method according to claim 2, wherein SE comprises yttrium.

26. (New) The method according to claim 10, wherein said cleaning comprises removing foreign phase fractions.

27. (New) The method according to claim 1, wherein said dehydrogenating and producing a reverse phase transition comprises a first desorption carried out under hydrogen pressure, followed by a second desorption carried out under high vacuum.

28. (New) The method according to claim 12, wherein said heat treating comprises treating at a temperature up to 600° C under a noble gas atmosphere or under a vacuum.